

because the associated procedure (Heller myotomy plus Dor fundoplication) proved to be superior to the Heller procedure alone when the incidence of postoperative gastroesophageal reflux at short- and long-term follow-up is considered. We believe that suturing the gastric wall to the edges of the myotomy with 3 stitches on each side, according to the Dor technique, maintains the edges of the myotomy open, thus preventing consequences of scar tissue repair, and covers any undetected perforation of the esophageal mucosal layer, thus preventing significant perioperative morbidity. According to our experience,⁵ we advise the use of radionuclide esophageal transit study in evaluating the esophageal transit time and esophageal emptying after myotomy because it is more accurate than the analysis of changes in timed barium esophagograms as suggested by Rice and colleagues.¹ We appreciate the authors' feedback on the observations raised.

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Reply to the Editor:

We thank Porziella and colleagues for their comments and suggestions. In our study, esophageal manometry was performed preoperatively and postoperatively, but not intraoperatively. Therefore, we cannot compare published intraoperative results with our results. As Dr Cesario pointed out, at least for fundoplication, there is poor correlation between intraoperative and postoperative manometry.

In our patients who underwent Heller myotomy alone, median resting pressure was 13.3 mm Hg, and median residual pressure was 1.8 mm Hg. Incomplete myotomy or rapid early healing of the nondistracted lower portion of the myotomy may account for the few elevated measurements. No doubt prior therapy can obliterate the plane between the muscularis propria and submucosa, making myotomy more difficult and perhaps incomplete. However, in patients who underwent

Heller myotomy and Dor fundoplication, median resting pressure was 17.5 mm Hg ($P = .02$ compared with Heller myotomy alone), and resting pressure was 4.6 mm Hg ($P = .002$). Despite the identical myotomy technique, there were higher median lower esophageal sphincter resting and residual pressures, no doubt the result of Dor fundoplication. Despite this, esophageal emptying was not impaired. Therefore, Dor fundoplication can be added to Heller myotomy without adverse effects on esophageal emptying, the principal objective of therapy.

There are several theoretic reasons to add Dor fundoplication to Heller myotomy in treating achalasia: (1) Dor fundoplication provides a serosal patch over the myotomy, perhaps reducing postoperative leaks; (2) stitching the edges of a Dor fundoplication to the edges of a myotomy "holds" the myotomy open; and (3) Dor fundoplication provides a buttress to the myotomized esophagus and prevents formation of a pseudodiverticulum. However, the only proven effect of Dor fundoplication on Heller myotomy is reduction of gastroesophageal reflux. This is crucial in patients with myotomized achalasia who have no esophageal peristalsis to clear refluxed acid and bile.

We have abandoned nuclear medicine studies of esophageal emptying because they are costly and inconvenient, and lack anatomic definition. Timed barium esophagram is simple, fast, inexpensive, repeatable, and comfortable, and is an anatomic examination. We use it preoperatively, 8 weeks postoperatively, and in yearly follow-up in all our patients with achalasia.

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